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**IMPACT OF GLOBAL VALUE
CHAINS ON PERFORMANCE
OF SMALL AND MEDIUM-SIZED
ENTERPRISES IN SRI LANKA:
EVIDENCE FROM SRI LANKA**

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Abstract

The current study examines the impact of GVCs on the performance of SMEs in Uva and central provinces of Sri Lanka while recognizing potential local business sectors that can be linked with GVCs. Apart from that, key challenges and main success factors in relation to linking SMEs with GVCs are also identified. A total of 329 SMEs in both provinces were surveyed to collect quantitative data while four and eight FGDs and KIIs, respectively, were conducted to gather qualitative information. Both econometric and descriptive analyses were employed to accomplish the objectives of the research. The econometric analysis found that SMEs that are linked with GVCs have a higher level of profit than those that are not. Apart from the direct impact of GVCs, the study also observed that linking with GVCs indirectly increases the performance of SMEs through enhancing the sales revenue and research and development activities of SMEs. The descriptive analysis recognized five main business sectors, namely information technology, apparel, gems and minerals, tea and other agricultural products, and handcraft, as the sectors with the most potential to link with GVCs. Among these five sectors, SMEs in information technology, apparel, and gems and minerals are more likely to link with GVCs. In addition, the study recognized challenges such as a lack of access to finance, a lack of technology, a lack of information, being unable to meet quality standards, and an inability to produce the quantity required as the main obstacles to linking with GVCs. Furthermore, factors such as ensuring the quality of products, the availability of skilled labor, better access to finance, access to better technologies, the ability to produce at low cost, and access to BDSs increase the potential to link SMEs with GVCs. The findings of the study strongly recommend that government, nongovernment organizations, and policy makers should encourage SMEs to participate in GVCs by allowing them to grow as internationally competitive entrepreneurs.

# Contents

1. INTRODUCTION

1.1 Global Value Chain (GVCs) and Small and Medium-Sized Enterprises (SMEs): Concepts and Definitions

Global value chains (GVCs) have been a growing concept in global economy with the development of globalization. Since globalization is a common concept for all countries, GVCs are also linked with each and every country at different capacities irrespective of the status of the countries. Moreover, Harvie and Charoenrat (2015) highlighted in particular that the development of information and communication technology, transportation technology, and complex production processes has created a suitable environment for firms to engage with value chains across borders. However, there is no unique and well-recognized definition of GVCs and different scholars have defined and explained the concept of GVCs by considering different aspects of them. According to ESCAP (2009), a global value chain refers to the full range of cross-border, value-added business activities that are required to bring a product or service from the conception, design, sourcing raw materials, and intermediate input stages to production, marketing, distribution, and supplying the final consumer (ESCAP 2009). In addition, Porter (1985) explains that value chains provide a way to identify firms' source of differentiation, and the fundamental factors that drive it. Similarly, UNCTAD (2013) elaborated a value chain as a fragmentation of the production process and the international dispersion of tasks and activities within these value chains has led to the emergence of a borderless production system. Moreover, APEC (2010) described a GVC as a value chain that operates in more than one economy.

As Figure 1 indicates, there are two main steps in a GVC – production and distribution. Therefore, a GVC is a collection of numerous producers/suppliers, distributors, and business service providers. Figure 1 below illustrates the process of a GVC and how raw materials are converted into a final product, and also the distribution process of final products.

As Abe (2015) has highlighted, there are three key drivers of GVCs: (1) resource endowments; (2) market access; and (3) efficiency maximization. The resource endowment may include advanced infrastructure, land, and other limited resources, low-cost labor, and locational benefits (Feenstra 1998; Kimura and Ando 2005). As Christopher (2011) emphasized, efficiency maximization includes supply chain concepts such as just-in-time movement of goods, zero inventory, outsourcing and offshoring, and production agglomeration (Ronkainen, Halsall, and Heineman 2010; Kotler and Keller 2011). As Abe (2015) elaborated, factors such as low entry barriers, an enabling business environment, symmetric distribution of market information, and advanced logistic systems are crucial to ensure better market access.

Abe (2015), ESCAP (2009), and Gereffi, Humphrey, and Sturgeon (2005) identified four main types of GVCs: (1) an international supply market that requires minimal relationships among buyers and sellers and where transactions are made between buyers and sellers across borders; (2) international supply markets where leading producers have the controlling power over the international network of subsidiaries, affiliates, and suppliers; (3) a buyer-driven network where large retailers, brand manufacturers, and marketers play the central role in the GVC; and (4) integrated firms where hierarchical governance systems are implemented and produce all major products in-house.

Figure 1: The Process of a Global Value Chain
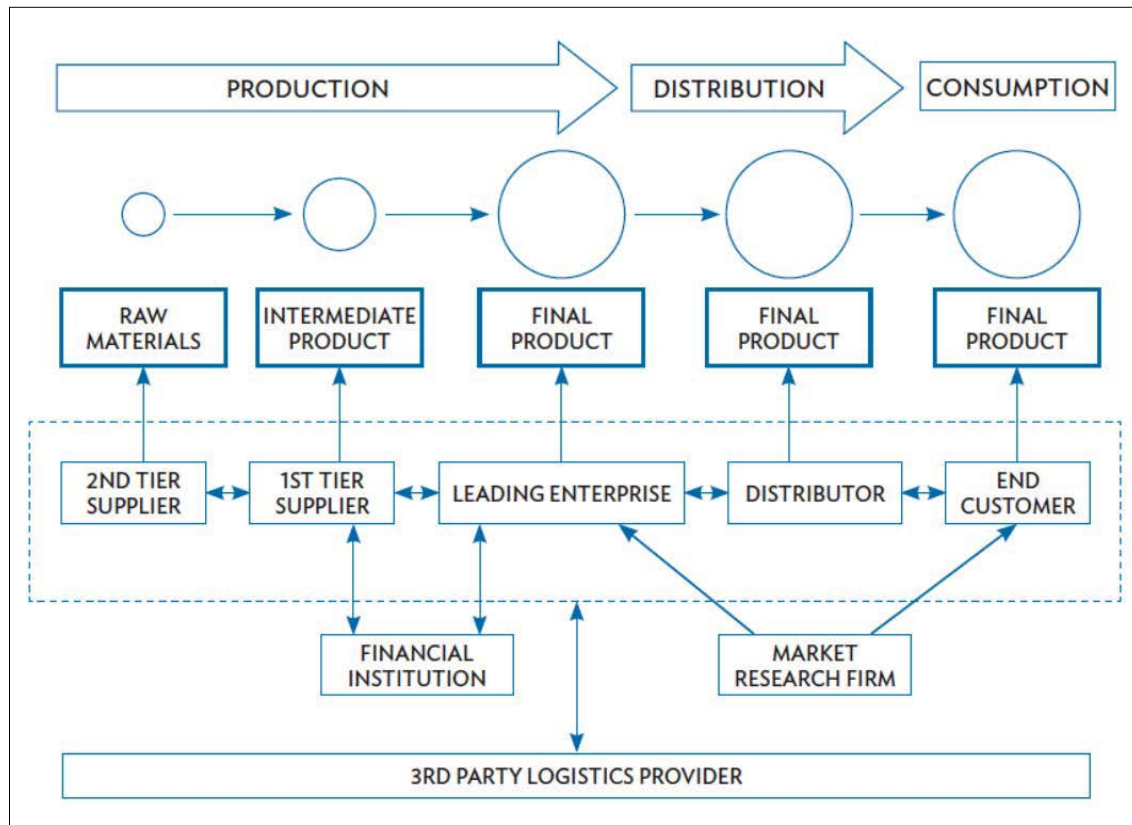
Source: Abe (2015).

Small and medium-sized enterprises (SMEs) play a crucial role in each and every economy irrespective of their development status. SMEs' contributions to the economy are multidimensional and output growth, employment generation, poverty alleviation, economic empowerment, and export growth can be considered among them (Harvie 2002; Asasen, Asasen, and Chuangcham 2003). As Abe et al. (2012) indicated, SMEs account for more than 95% of private enterprises in Asia and have generated more than 50% of employment. In Sri Lanka in particular, as of 2014, SMEs made up nearly 90% of enterprises (over 1 million SMEs), contributed 52% to the country's GDP, and produced 45% of its employment.

**Table 1: Number of Persons Engaged and Percentage Distribution
of SMEs in Economic Sectors**

Scale of the Establishment	People Engaged		Sector-wise Distribution (percentages)		
	No.	%	Industry	Trade	Service
Total	3,003,119	100	100	100	100
Micro	1,338,675	44.6	29.7	68.1	44.6
Small	529,751	17.6	14.0	16.8	22.6
Medium-sized	386,756	12.9	16.7	5.5	13.9
Large	747,937	24.9	39.6	9.5	18.9

Note: The definitions of types of SMEs are provided in Table 2.
Source: Created by authors based on Ministry of Industry and Commerce (2016).

Table 1 indicates the number of people engaged in each type of SME and the sector-wise percentage distribution of SMEs. The total number employed in the micro scale is 1.3 million, which is 45% of the total, although the micro scale represented almost 92% of the establishments. The large-scale business sector represents almost 25% of the employment, although it accounts for only 0.2% of the establishments.

Countries define SMEs based on different bases and dimensions and therefore different countries have different definitions of SMEs. In the United States (US), the definition of SMEs varies by industry as well. SMEs in the manufacturing sector should have 500 or less employees, while in trade and wholesale sectors there should be 100 or less employees. In contrast, SMEs in the mining, quarrying, and oil and gas extraction sectors are eligible to have up to 1500 employees while SMEs in silver ore mining can have 250 employees (Ward 2018). The Industry of Canada (2017) identified four types of SMEs based on the number of employees. Industries with 1–4, 5–99, and 100–499 employees are defined as micro, small, and medium-sized industries while industries with more than 500 are considered large industries. The People's Republic of China (PRC) has considered the number of employees, annual revenue, and assets in defining SMEs. In the EU, a similar system is used to define small to medium-sized enterprises. A business with a headcount of fewer than 250 is classified as medium-sized, a business with a headcount of fewer than 50 is classified as small, and a business with a headcount of fewer than 10 is considered a microbusiness. The European system also takes into account a business's turnover rate and its balance sheet. In fact, the European Commission considers three dimensions, namely the number of employees, the annual turnover, and the total balance sheet, in classifying SMEs (European Commission 2005).

However, it is crucial to focus on the Sri Lankan definition of SMEs as the current study is based on SMEs in Sri Lanka. As indicated in Table 2, Sri Lanka has also considered two dimensions, namely the number of employees and annual turnover, in order to classify SMEs into micro, small, and medium-sized categories. Under the present SME policy framework in Sri Lanka, SMEs are defined based on the number of employees and annual turnover. In order to qualify as an SME, an enterprise must employ less than 300 people and generate an annual turnover of less than USD LKR 4.41 million.

Table 2: SME Classification in Sri Lanka

Company Category	Manufacturing Sector		Service Sector	
	Number of Employees	Annual Turnover (Million)	Number of Employees	Annual Turnover (Million)
Micro	1–10	≤ LKR 15	1–10	≤ LKR 15
Small	11–50	≤ LKR 16–250	11–50	≤ LKR 16–250
Medium-sized	51–300	≤ LKR 251–750	51–200	≤ LKR 251–750

Source: Ministry of Industry and Commerce, Sri Lanka (2002).

Sri Lanka has also identified slightly different thresholds in terms of the number of employees for manufacturing and service sectors. The current study applied the SME classification indicated in Table 2.

1.2 Problem Statement and Objectives

The national policy adopted to promote SME development was documented by the Ministry of Industry and Commerce in 2016. The idea for this took root in 2002 with the laying down of a white paper by a task force comprising government officials, business leaders, and members of chambers and industry. Their vision was to help SMEs to be

globally competitive through fostering an entrepreneurial culture and adopting socially and environmentally sustainable practices. The intervention strategies of the policy are illustrated by Figure 2A (left). According to this figure, factors such as an enabling environment, access to research and development, an entrepreneurial culture, skills and development, access to finance, and market facilitation have been recognized as the determinants of sustainable SME development.

Figure 2: Policy Intervention Strategies

Source: Ministry of Industry and Commerce (2016).

Source: Modified by authors based on Ministry of Industry and Commerce (2016).
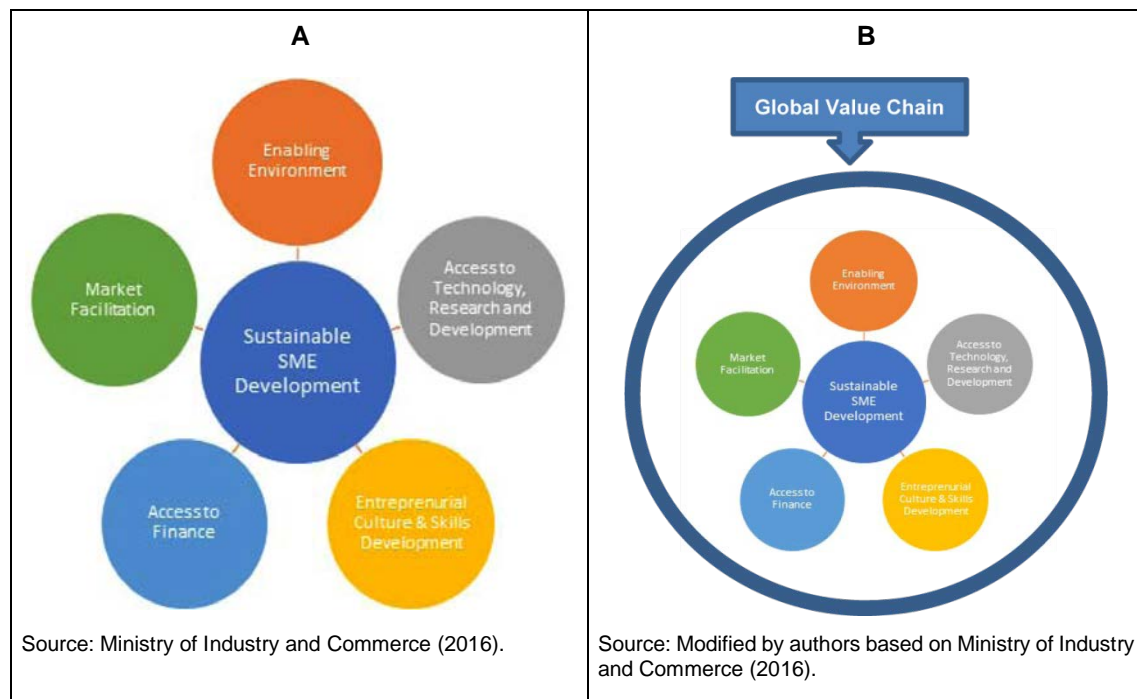
However, the policy has not included the impact of linking with GVCs, which affects sustainable SME development and all the other five dimensions in Figure 2A (on the left). In fact, linking with GVCs has become a novel concept for most SMEs in Sri Lanka. Thus, the impact of GVCs on SMEs has not been considered by either policy makers or researchers. Under this scenario, the current study examines the impact of GVCs on the performance of SMEs in Uva and central provinces of Sri Lanka. Accordingly, Figure 2A can be changed by incorporating the impact of GVCs as illustrated in Figure 2B on the right. Hence, the study aims to provide appropriate suggestions and policy implications to enrich the existing SME Development Strategic Plan in Sri Lanka while highlighting the benefits of getting involved with GVCs. The specific objectives of the study are as follows.

1. To recognize and profile the SMEs in Uva and the central provinces of Sri Lanka

2. To examine the economic impact of GVCs on the performance of SMEs in Uva and the central provinces of Sri Lanka

3. To recognize potential local business sectors and their intention in linking with GVCs

4. To identify key challenges and key success factors in relation to linking with GVCs

The paper is structured as follows. The next section reviews the existing body of knowledge followed by a description of the methodology of the research. After that, results and discussions are elaborated while the final section accounts for conclusions and recommendations followed by a list of references.

2. LITERATURE REVIEW

2.1 Challenges faced by SMEs in Sri Lanka

A large number of empirical studies have identified key challenges faced by SMEs in general. However, a study performed by the International Finance Corporation (IFC) observed that 77% of Sri Lankan SMEs out of all the SMEs included in the study highlighted the need for medium- and long-term loans for their businesses. Among them only 53% of SME holders had access to bank loans and out of this 53%, only 29% of SMEs successfully secured their financial requirements (Nanayakkara 2011). However, Attygalle et al. (2014) argued that the government has formed special banks such as the Lankaputhra Development Bank to provide loans for SMEs while other banks such as the People's Bank, Sanasa Bank, and Regional Development Bank also provide such loan schemes. In contrast, Gamage (2003) highlighted that SMEs face severe difficulties in accessing loans as banks and financial institutions ask for heavy collateral and also charge higher interest rates. Abeyratne (2006) conducted a survey in Monaragala district in order to analyze the key challenges faced by SMEs. The study identified 27% of SME holders in Monaragala district as having been negatively affected by unsupportive government policies. In contrast, only 16% of SMEs in Monaragala district mentioned any financial difficulties faced by them. This is mainly due to the availability of informal financial institutions that provide loans without any collateral with repayment collected on a daily or weekly basis. However, interest rates attached to these loan schemes are extremely high and the borrowers do not even know the interest rate. In addition to financial constraints highlighted by the authors, nonfinancial barriers such as a lack of technology and managerial skills also hinder the efficiency and performance of SMEs.

In fact, most SMEs perform at the micro and medium level and have not linked up with high-tech industries and value chains. Similarly, Esim (2001) pointed out that SMEs in Sri Lanka do not receive updated information about market opportunities and marketing skills. Esim (2001) further highlighted that in addition to the lack of access to market opportunities, SMEs in Sri Lanka also suffer from insufficient know-how to market their products in domestic and international markets.

As Athukorala (2017) highlighted, one of the key issues in Sri Lanka is the absence of a clear policy that a typical small or medium-scale entrepreneur can use as a guide. In Thailand, there was an SME promotional plan and in the Philippines there was an SME development plan launched with aggressive field administration. ASEAN got together and launched a blueprint for ASEAN SMEs that got traction, but Sri Lanka could not latch on to this. Athukorala (2017) further stressed that it would take approximately 258 days to complete the business registration process together with a cost of 5% of the land value, which is not conducive to fostering entrepreneurship. The lack of business development services, inadequate research and development facilities, the lack of quality certification at district level, and the linkage to export markets not being readily available come up as key issues whilst the biggest issue is the difficulty in gaining access to concessionary finance. Another point highlighted by Athukorala (2017) is that SMEs pay on average 28 types of taxes, which are highly complex and

time-consuming. Similarly to Athukorala (2017), Priyanath and Premaratne (2014) also criticized the policy framework related to SMEs in Sri Lanka.

The government SME development programs do not help SMEs to access sufficient and reliable information that leads to more rational decision-making, to safeguarding transactions from opportunism, and to selecting a suitable governance mechanism. SME development programs have neglected to support formal governance; as a result, there is a high possibility that SMEs in Sri Lanka have greater transaction costs, which impedes the growth of SMEs (Priyanath and Premaratne 2014). Vijayakumar (2013) highlighted that there is only very poor growth in SMEs, in terms of mean value of assets, value of turnover, and mean value of number of employees as well as growth stages of SMEs. The Central Bank Annual Report of 2016 cites a World Bank study that states that firms aged 25 years or more are only 50%–90% larger than firms less than five years old. Vision 2025 has identified several steps to address this problem, such as gradation of microenterprises to SMEs. These will include: introducing policies to increase project-based lending vs. collateral-based lending; removing taxes that prevent expansion; encouraging knowledge sharing between SMEs and R&D institutions; enhancing brand value; increasing access to markets and access to credit. The ultimate aim is to integrate SMEs into the formal sector. The key policy challenge is translating vision into policy and practice.

2.2 Impact of Linking with GVCs on SME Development

During the past few years, the organization of production has undergone significant changes with its extension to the global platform. GVCs have influenced the production process, which is determined by sourcing inputs from lower sources of suppliers, finding more opportunities in new marketplaces, and available strategic partnership options (OECD 2007). Extending SMEs into GVCs is not just a matter of internationalization but goes beyond that. Therefore, restructuring the production level at the global level is more essential for SMEs, especially in expanding their business opportunities and market outreach. It is a fact that cross-border business activities are challenging and a costly step for SMEs. Most SMEs claim that insufficient resources and capabilities, and inadequate self-confidence in reaching out to international markets are major obstacles to touching the global business atmosphere. Furthermore, grasping foreign business opportunities, maintaining control over foreign intermediaries, and accessing export distribution channels are also challenging for SMEs (OECD 2007). Although there are a few obstacles, overcoming them and participating in GVCs may bring possible benefits to SMEs. Enterprises that have successfully integrated into one or more value chains have been able to obtain stability or expand their businesses. It is evident that participation in the activities of GVCs can produce benefits for domestic economies (OECD 2012).

Participation in GVCs provides opportunities to suppliers and individuals to acquire new competencies and skills. The trade, investment, and knowledge flows that underpin GVCs lead to fast learning, innovation, and industrial upgrading. GVCs have provided instantaneous access to new information, opening up new market opportunities and bringing a technological learning atmosphere through linked transactions and investments. Local enterprises can enhance their performance in their own markets by combining national and international intermediate inputs, and by creating economies of specialization that can leverage cross-border complementarities and allow the enterprises to benefit from knowledge and technology spillovers (OECD 2012).

Yuhua and Bayhaqi (2013) highlighted the benefits to SMEs of macro- and micro-level participation in global production networks, which include: (1) enhancement of technical capacity; (2) increased demand for existing products and services leading to optimal utilization of production capacity and improvement of production efficiency; (3) enabling SMEs to raise equity finance from foreign investors and acquire competent human resources through prestige and credibility created through the global production network; (4) uncovering a steady and sustainable way to enter into internationalization, which may not be impossible for SMEs. Moreover, according to Yuhua and Bayhaqi (2013), participation of SMEs in global production networks may provide benefits, such as: (1) fast-growing economies identify SME sectors as one of the positive and influencing factors in economic growth; (2) GVCs create a number of job opportunities for the local community; (3) SMEs can expand their exports to foreign markets and allow them to create a tank of foreign reserves that is necessary for the growth of developing economies; (4) consequently GVCs provide a solid platform for the sustainable economic growth and development of local economies and businesses through SME sector participation.

However, no studies have been conducted to examine the impact of GVCs on SMEs in Sri Lanka. The current study believes that incorporating with GVCs will be crucial to overcome the highlighted challenges related to the Sri Lankan SME industry. Since no previous studies have systematically addressed the impact of GVCs on SMEs in Sri Lanka, the present study attempts to fill the gaps in both the literature and policy framework.

3. METHODOLOGY

3.1 Study Area and Data Collection Procedures

The study mainly focuses on four districts (Badulla, Monaragal, Matale, and Nuwara Eliya) located in Uva and the central provinces. In particular, the selected districts represent rural and estate sectors where most of the lower-income groups and marginalized groups are located. Moreover, the government has started a special program to enhance the profile of the SMEs in both Uva and the central provinces in order to reduce poverty through providing better employment opportunities. Moreover, districts such as Colombo and Gampaha located in the western province feature both medium- and large-scale industries rather than SMEs. Furthermore, it is easy to find two groups, one that engaged with GVCs and one that did not, in both Uva and the central provinces and this allows the impacts of GVCs on SMEs' performance across both groups to be compared.

The study will be mainly based on primary data, although it is expected that some secondary data will be collected from the desk review. The proposed study uses the following data collection tools to collect required data.

1. Enterprise survey with SME holders

2. Focus group discussions (FGDs)

3. Key informant interviews (KIIs)

Table 3 elaborates the data collection procedure in detail. The study collected relevant quantitative data from 329 SME holders located across the four districts of two provinces by applying the snowball sampling technique. Moreover, four FGDs and eight KIIs were also conducted to collect qualitative data required for the study.

Table 3: Details of the Survey, FGDs, and KIIs

Provinces	Districts	No. of Divisional Secretariat Divisions	Total	FGDs	KIIs
Uva Province	Badulla	DS 1	18	1	2
		DS 2	18		
		DS 3	15		
		DS 4	18		
		DS 5	15		
	Monaragala	DS 1	17	1	2
		DS 2	17		
		DS 3	16		
		DS 4	19		
		DS 5	12		
Central Province	Matale	DS 1	18	1	2
		DS 2	14		
		DS 3	15		
		DS 4	16		
		DS 5	16		
	Nuwara Eliya	DS 1	19	1	2
		DS 2	16		
		DS 3	23		
		DS 4	12		
		DS 5	15		
Total			329	4	8

Source: Created by authors.

3.2 Data Analysis

Both econometric and descriptive analyses are incorporated to accomplish the objectives of the study. Moreover, qualitative information collected through FGDs and KIIs is used to validate the quantitative findings and also to provide in-depth analysis on GVC and SME development in the context of Sri Lanka.

Econometric Analysis

An econometric analysis was employed to quantify the impact of engaging with GVCs on SME development. The following empirical model was estimated to accomplish the main objectives of the study. The empirical model is aligned with the econometric model used by Vidavong (2019) in the context of Lao PDR and also empirical studies by Dikova et al. (2015) and Biesebroeck (2005). Logarithmic values of all continuous variables were taken to reduce unnecessary variation of the variables. Similarly, profits of firms were considered as a proxy for the performance of SMEs. Moreover, a dummy variable was assigned to measure the impacts of GVCs on SMEs' performance as the dummy variable allows comparison of the impacts across two groups – SMEs that are engaged with GVCs and SMEs not engaged with GVCs.

$$lnProfit_i = \beta_0 + \beta_1 GVC_i + \beta_2(GVC_i \times lnSL_i) + \beta_3(GVC_i \times lnTR_i) + \beta_4(GVC_i \times lnRD_i) + \beta_5 lnEX_i + \beta_6 lnTR_i + \beta_7 lnRD_i + \beta_8 lnK_i + \beta_9 lnL_i + \beta_{10} lnHC_i + \beta_{11} lnAGE_i + \beta_{12} TYPE_i + U_i \tag{1}$$

The variables indicated in the empirical model are explained in Table 4 below.

Table 4: Operationalization and Explanation of Variables

Variable Name	Explanation	Expected Sign
Profit	Annual profit of the firm after tax	
GVC	Dummy variable for global value chain GVC = 1 for SMEs that are engaged in GVC GVC = 0 for SMEs that are not engaged in GVC	Positive when GVC = 1
lnSL	Log of annual sales revenue	Positive
lnTR	Log of number of employees who are trained annually	Positive
lnRD	Log of share of R&D expenditure in total revenue	Positive
lnK	Log of total capital of the firm	Positive
lnL	Log of number of workers	Positive
lnHC	Log of the level of education of SME holder	Positive
lnAGE	Log of age of SME holder	Positive
TYPE	Dummy variable for type of SME TYPE = 1 for small TYPE = 0 for otherwise (medium and large)	Negative when TYPE = 1

Source: Created by authors.

Summary statistics related to each variable (without logarithm) are presented in Table 5 below.

Table 5: Summary Statistics of Variables

Variables	Units of Variables	Number of Observations	Maximum	Minimum	Mean
Profit	Sri Lankan Rupee	329	275,000	17,500	185,000
GVC	Dummy Variable	329	1	0	0.49
SL	Sri Lanka Rupee	329	552,402	39,142	209,231
TR	Number of Employees	329	120	1	24
RD	Sri Lanka Rupee	329	120,000	15,000	35,000
K	Sri Lanka Rupee	329	120,0000	95,000	1
L	Number of Employees	329	375	2	68
HC	Years of Schooling	329	19	1	13
AGE	Years	329	69	20	52

Source: Created by authors based on survey data.

In addition to the econometric analysis, a descriptive analysis is also utilized in support of the objectives of the research.

4. RESULTS AND DISCUSSION

4.1 Profiling the SMEs in Uva and the Central Provinces of Sri Lanka

Profiling the identified enterprises in four districts is important in order to understand the salient features and composition of SMEs. This allows for a comprehensive understanding of existing SMEs, which in turn enables evaluation of their performance, limitations, challenges, etc. Therefore, this section profiles the SMEs based on gender,

age structure, educational attainment of the entrepreneurs, source of capital, average monthly income of the SMEs, and number of workers employed.

SMEs' Participation in GVCs and Profit of SMEs

The SMEs that export their products or services as a final or intermediate product or service are considered to be SMEs participating in GVCs. Enumerators asked respondents whether they engage with such a process and accordingly the respondents were classified as GVC or non-GVC SMEs. Table 6 clearly indicates the percentage and number of SMEs that are classified as GVC and non-GVC SMEs across four districts.

Table 6: Distribution of GVC and Non-GVC SMEs across the Districts

Districts	GVC	Non-GVC	Total
Badulla	35 (41.7%)	49 (58.3%)	84 (100%)
Monaragala	28 (34.6%)	53 (65.4%)	81 (100%)
Matale	51 (64.6%)	28 (35.4%)	79 (100%)
Nuwara Eliya	47 (55.3%)	38 (44.7%)	85 (100%)

Source: Calculated by authors based on enterprise survey.

According to Table 6, Matale and Nuwara Eliya districts are the districts where more than 50% of SMEs engage with GVCs. In particular, 64.6% and 55.3% of SMEs in Matale and Nuwara Eliya, respectively, engage with GVCs. However, SME participation in GVCs is significantly lower in both Badulla (41.7%) and Monaragal (34.6%) than in Matale and Nuwara Eliya. In fact, Badulla and Monaragala districts are extremely remote and lack infrastructure, information, and financial facilities compared to the other two districts considered.

Furthermore, profit is the key variable and was assigned as the dependent variable of the model. The profit was calculated by subtracting the cost of all inputs and taxes from sales revenue. Figure 3 compares the average monthly profit of GVC and non-GVC SMEs across four districts. The figure clearly shows that SMEs linked with GVCs achieve a higher average profit than non-GVC SMEs. In general, SMEs in Matale district achieve the highest average profit followed by Monaragala. Interestingly, the average profit levels of SMEs that are engaged in GVCs are considerably higher than that of the average profit for SMEs in all four districts, which is Rs. 178,125.

Figure 3: Average Monthly Profit of SMEs in Four Districts (in Sri Lankan rupees)

Source: Created by authors based on enterprise survey.

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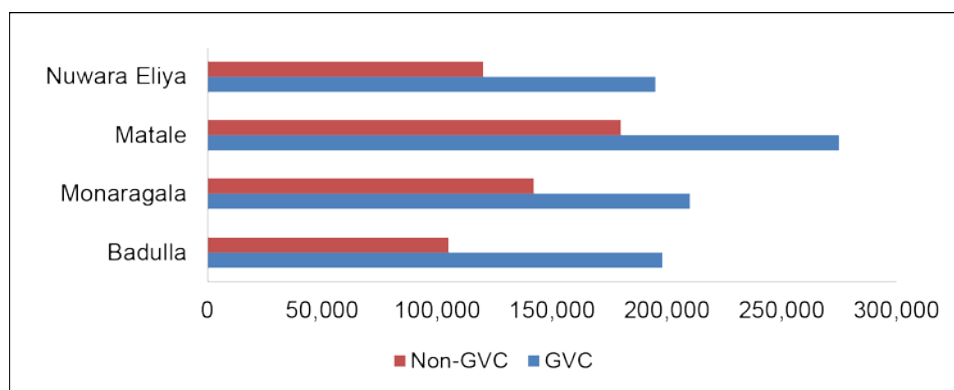
Moreover, as Figure 3 illustrates, the difference in profit of both GVC and non-GVC SMEs is more substantial in Matale and Badulla districts while Nuwara Eliya district has the lowest profit related to GVC SMEs.

Gender Composition of SME Holders

Figure 4 depicts the gender composition of SMEs in the four districts of Uva and the central provinces. On average, the number of female entrepreneurs is lower than that of males and this trend is more pronounced in Nuwara Eliya district, where our survey captured only 17 female-headed SMEs (20%) as compared to 68 SMEs run by males. In fact, the majority of women in Nuwara Eliya district are employed in the plantation sector, where there are only limited opportunities for them to become entrepreneurs. However, the gender gap in SME ownership is comparatively low in both Monaragala and Badulla districts where 39 (48.1%) and 35 (41.7%) SMEs, respectively, are run by females.

Figure 4: Gender Composition of SMEs in Four Districts
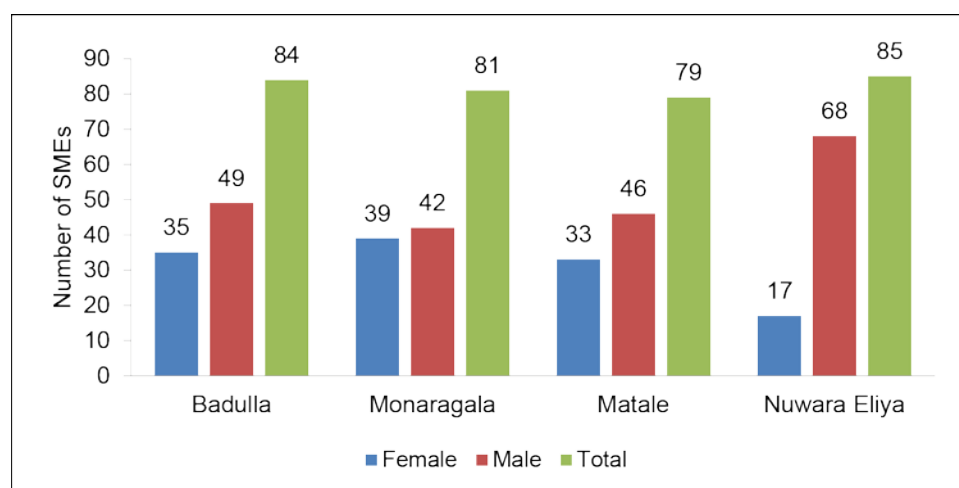
Source: Created by authors based on enterprise survey.

According to the survey results, in the Badulla district, the majority of agriculture-based SMEs (72.0%) are run by males while the majority of industry-based SMEs are run by females (56.8%). However, an opposite trend is seen in Monaragala, where a majority of females operate agriculture-based micro SMEs (53.3%), while the majority of industrial SMEs are run by males (54.9%). In contrast, the gender composition for SMEs in the Nuwara Eliya district is extremely male-skewed and the majority of SMEs in all three sectors (agriculture, industry, and service) are owned by males while the proportion headed by females is very low.

Table 7 indicates that according to the survey findings, 62.3% of businesses are run by males while only 37.7% are owned by females, thereby showing a significant gender gap in the four districts.

Table 7: Gender Composition of SMEs by Type of Business

Type of Business	Sex					
	Female		Male		Total	
Agriculture, farming, and dairy	27	(27.3%)	72	(72.7%)	99	
Arts and crafts	8	(23.5%)	26	(76.5%)	34	
Apparel and bags	39	(70.9%)	16	(29.1%)	55	
Auto parts and maintenance	1	(12.5%)	7	(87.5%)	8	
Food and beverages	23	(40.4%)	34	(59.6%)	57	
Hotels and homestay	5	(35.7%)	9	(64.3%)	14	
Cement and metalwork	9	(37.5%)	15	(62.5%)	24	
Furniture	4	(33.3%)	8	(66.7%)	12	
Salons and spas	2	(28.6%)	5	(71.4%)	7	
Household items	4	(57.1%)	3	(42.9%)	7	
Other	2	(16.7%)	10	(83.3%)	12	
Total	124	(37.7%)	205	(62.3%)	329	

Source: Created by author based on enterprise survey.

Age Structure of SME Holders

Table 8 summarizes the age composition of SME holders in the four districts based on the main economic sectors. It is apparent from the table that the average age of SME holders is between 40 and 50 for any type of SME. The mode (29) indicates that a majority of agriculture-related SME holders in the Badulla district are younger than those in the other districts.

Table 8: Age Composition of SME Holders in Four Districts

Districts	Type of SME	Age			
		Mean	Mode	Maximum	Minimum
Badulla	Agriculture	40.65	29	61	20
	Industry	44.33	39	72	24
	Service	44.67	52	55	28
Matale	Agriculture	44.68	31	76	25
	Industry	41.77	36	69	22
	Service	–	–	–	–
Monaragala	Agriculture	45.61	32	66	21
	Industry	43.00	39	73	26
	Service	48.80	31	67	31
Nuwara Eliya	Agriculture	42.78	50	57	22
	Industry	42.60	54	59	23
	Service	40.44	43	59	28

Source: Calculated by author based on enterprise survey.

Similarly, the large age gap between the maximum and minimum ages clearly indicates that the enterprise survey has representatively captured the views of entrepreneurs whose ages range from young adults to seniors.

Educational Attainments of SME Holders

The enterprise survey recorded the educational attainments of SME holders based on years of education. The average number of years of education of agriculture-related SMEs varies between 10 and 13 years with the Nuwara Eliya and Monaragala districts accounting for the lowest educational level. Similarly, the survey revealed that the SME operators in the Nuwara Eliya district have the lowest educational qualifications, followed by those in the Monaragala district.

Table 9: Educational Attainments (years of education) **of SME Holders in Four Districts**

Districts	Type of SME	Years of Schooling			
		Mean	Mode	Maximum	Minimum
Badulla	Agriculture	13	14	19	8
	Industry	13	12	19	0
	Service	13	14	15	11
Matale	Agriculture	14	14	19	12
	Industry	12	14	15	4
	Service	–	–	–	–
Monaragala	Agriculture	10	14	15	0
	Industry	12	12	18	5
	Service	11	12	14	7
Nuwara Eliya	Agriculture	10	12	18	0
	Industry	10	12	18	0
	Service	12	12	14	7

Source: Calculated by author based on enterprise survey.

Additionally, it is interesting to note that agriculture-related SMEs in the Matale district have the highest average number of years of education (14), which is significantly higher that of the other three districts.

Average Income of SME Holders

Figure 5 illustrates the average monthly income of the three types of SME holders in the four districts. It should be noted that information related to income could be extremely subjective, thus the data presented in this regard should be used with caution.

It was revealed that the incomes of industry-related SMEs were higher in the Monaragala district than in the other two SME sectors. Income from industry-related SMEs was reported as being the second highest in the other three districts. Agriculture-related SMEs in the Badulla district seem to be performing better as their income is the highest among the three SME sectors. However, the monthly incomes of agriculture-related SMEs in other districts were revealed to be significantly lower than in the Badulla district.

Figure 5: Average Monthly Income of SME Holders in Four Districts
(in Sri Lankan rupees)
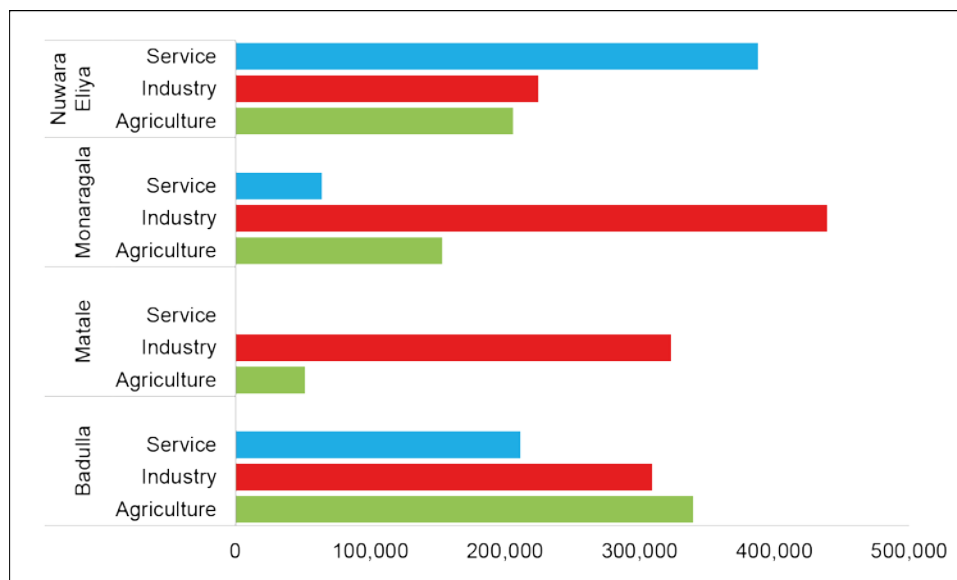
Source: Created by author based on enterprise survey.

According to the survey findings, service-related SMEs in the Nuwara Eliya district earn almost double the monthly income of agriculture and industrial SMEs. In contrast, the income of service-related SMEs located in the Monaragala district is significantly lower while those in the Matale district attached to the service sector did not reveal their income levels.

Average Income of SME Holders by Type of Business

Table 10 indicates the monthly average income of SMEs by type of business. According to the findings, hotels and homestays account for the highest average monthly income (Rs. 973,076) followed by food and beverages (Rs. 552,422). In contrast, businesses such as those making household items have the lowest monthly income.

Table 10: Average Income of SME Holders by Type of Business (Rs.)

Type of Business	Mean Income (Monthly)
Agriculture, farming, and livestock	224,904.88
Arts and crafts	86,006.94
Apparel and bags	298,193.88
Auto parts and maintenance	68,750.00
Food and beverages	552,422.22
Hotels and homestay	973,076.92
Cement and metalwork	87,295.45
Furniture	182,727.27
Salons and spas	79,714.29
Household items	39,142.86
Other	273,408.33

Source: Calculated by author based on enterprise survey.

4.2 Impact of GVCs on SMEs in Uva and the Central Provinces of Sri Lanka

The impact of GVCs on SMEs' performance is measured using econometric analysis. Prior to the econometric analysis, correlations among the independent variables were tested to see whether there are higher correlations that may lead to multicollinearity. Table 11 illustrates the correlation analysis and the analysis clearly highlights that there is no significantly higher correlation among the independent variables. Hence, the selected variables can be incorporated as the independent variables of the econometric analysis.[1]

Table 11: Correlation among the Independent Variables

	lnSL	lnTR	lnRD	lnK	lnL	lnHC	lnAGE
lnSL	1	0.6574	0.6022	0.4316	0.3972	0.2342	0.5327
lnTR	0.6574	1	0.5723	0.3521	0.2314	0.341	0.2973
lnRD	0.6022	0.5723	1	0.4376	0.5319	0.3429	0.4251
lnK	0.4316	0.3521	0.4376	1	0.2351	0.3598	0.4519
lnL	0.3972	0.2314	0.5319	0.2351	1	0.4732	0.3481
lnHC	0.2342	0.341	0.3429	0.3598	0.4732	1	0.3401
lnAGE	0.5327	0.2973	0.4251	0.4519	0.3481	0.3401	1

Source: Calculated by author based on enterprise survey.

Table 12 indicates the estimated results for the empirical model mentioned in equation (1) in the methodology section. Three models were estimated by adding independent variables gradually in order to check the robustness of the relationship between GVCs and the profit of SMEs.

The key variable, GVC, and another three independent variables, namely capital, labor, and human capital, were included in model 1. Model 2 incorporated additional variables such as sales revenue, number of annually trained workers, expenditure on research and development, age of the firm, and type of SME. Finally, the third model can be considered the complete model, which measures both direct and indirect impacts of GVCs on the profit of SMEs along with the impacts of other characteristics of firms. Specifically, interaction terms included in the third model estimate the indirect effect of GVCs through the sale revenue, training, and research and development of firms.

It is worth highlighting that the estimated coefficients for GVCs in all three models are positive and statistically significant at the 1% level. This implies that SMEs that have engaged with GVCs achieve a higher profit than SMEs that have not. Specifically, this relationship is consistent even when the models are controlled by other characteristics of firms. In fact, SMEs that have engaged with GVCs have a higher potential to enhance competitiveness, productivity, and also economies of scale while reducing production costs. Moreover, GVCs allow SMEs to link with a broader network in the international business arena, which is crucial for SMEs that are in the growing stage. Scholars such as Harvie, Narjoko, and Oum (2010), Yuhua (2014), and Arudchelvan and Wignaraja (2015) also indicated that SMEs participating in GVCs can increase their profit through higher competitiveness and production cost efficiency. Moreover, Pietrobelli and Rabellotti (2011) confirmed that GVCs benefit SMEs through production expansions and

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[1] This observation is supported by the estimated VIF being 4.46 from the regression in Table 12, while the commonly agreed threshold for the presence of multicollinearity is greater than 10.

new information, and in turn the profit of SMEs also increases. Therefore, it is apparent from the estimated results that engaging with GVCs essentially increases the profit of SMEs in Sri Lanka, which ensures future development of such SMEs.

Table 12: Impact of GVC on Performance of SMEs

Variable Name	Model 1	Model 2	Model 3
GVC	0.8091***	0.7863***	0.7231***
	(0.1321)	(0.2314)	(0.2256)
lnK	0.7732***	0.6352**	0.6733**
	(0.2124)	(0.2931)	(0.3167)
lnL	0.2341***	0.2031**	0.2122**
	(0.0814)	(0.0987)	(0.0923)
lnHC	0.0813**	0.0736**	0.0675
	(0.0387)	(0.0352)	(0.1064)
lnSL		0.8056**	0.7863**
		(0.2787)	(0.3848)
lnTR		0.0245**	0.0271
		(0.0109)	(0.0324)
lnRD		0.0223*	0.0127
		(0.0116)	(0.0267)
lnAGE		0.8201	0.7861
		(0.8971)	(0.9171)
TYPE		−0.1897***	−0.2787**
		(0.0621)	(0.1072)
GVC x lnSL			0.2018**
			(0.0827)
GVC x lnTR			0.0626
			(0.7871)
GVC x lnRD			0.0876**
			(0.0372)
Constant	12.7161***	8.8971***	6.6371***
	(0.9781)	(0.8181)	(0.8761)
Number of Observations	329	329	329
R^2	0.4582	0.5672	0.7762
Prob on F	0.0000	0.0000	0.0000

*** 1% significance level, ** 5% significance level, * 10% significance level.

Note: Standard errors are in parentheses.

Source: Estimated by authors.

Apart from the direct impact of GVCs, the indirect effects of GVCs are also taken into account by incorporating interaction terms. As model 3 indicates, both interaction terms – (GVC x lnSL) and (GVC x lnRD) – have a positive coefficient and are also statistically significant at the 5% level. This reflects the fact that SMEs that have engaged with GVCs have higher sales revenue and research and development capabilities than those that have not. Therefore, GVCs increase the profit of Sri Lankan SMEs through enhancing sales revenue and research and development activities and this is in line with the empirical findings of Vidavong (2019).

In addition to the key findings, the estimated models also confirm that factors such as capital assets, number of workers, and sales revenue of firms also positively affect the profit of SMEs. More specifically, a 1% increase in capital and labor may increase the profit of the SMEs considered by 0.67% and 0.21%, respectively. Human capital has also been recognized as a factor in the profit of SMEs when the model is not controlled for

interaction terms. In addition, considering the estimated coefficient for the variable "TYPE" (–0.2787), it is apparent that the profits of small-scale SMEs are significantly lower than those of medium- and large-scale SMEs. The estimated models are statistically significant at the 1% level overall and also have a higher R^2 value in model 3 (0.7762), representing a higher level of goodness of fit.

4.3 Recognizing Potential Local Business Sectors and Their Intention to Link with GVCs

Potential Local Business Sectors

It is recognized that Sri Lanka has only a limited number of SMEs that have linked with GVCs. However, there are numerous business sectors that have a higher potential to be linked with GVCs. The study initially conducted KIIs with relevant experts in the field to explore business sectors that can be easily linked with GVCs. Figure 6 indicates the recognized business sectors that can be connected with GVCs and the figure also illustrates the magnitude of the potential in relation to each recognized business sector based on a five-point Likert scale.

Figure 6: Recognized Business Sectors and their Potential to Be Linked with GVCs
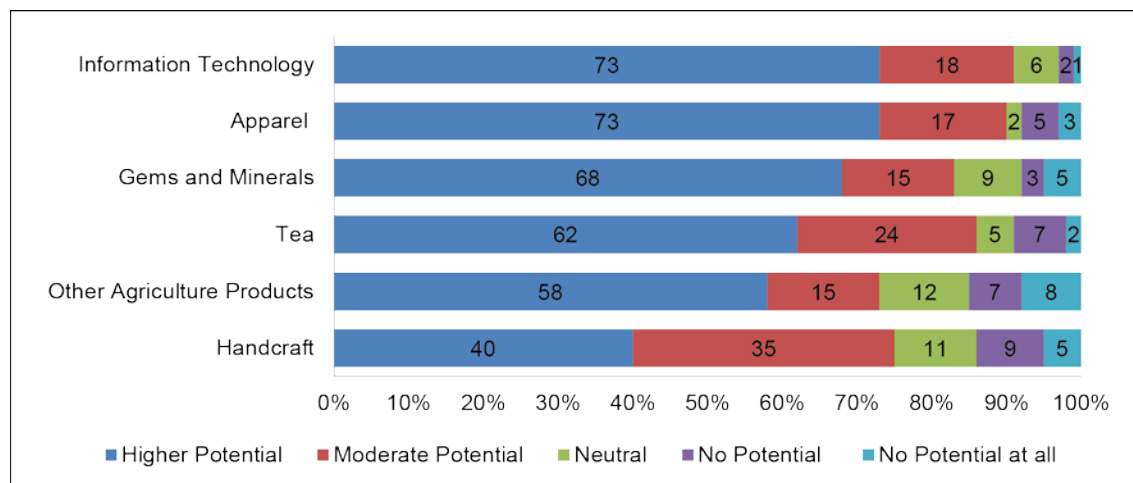
Source: Created by authors based on KIIs and survey.

According to KIIs, five main business sectors, namely information technology, apparel, gems and minerals, tea and other agricultural products, and handcraft, were recognized as the sectors with the most potential. As Figure 6 illustrates, the information technology sector and the apparel sector seem to be the sectors with the highest potential for GVCs. More than 70% of the respondents confirmed that these two sectors have "higher potential" while less than 5% indicated "no potential" to link with GVCs. Moreover, 68% and 62% of the respondents mentioned that both gems and minerals and tea sectors, respectively, have a higher potential to link with international markets.

We have the best gems and also a world-famous tea brand – Ceylon Tea. I don't think we have capitalized on the opportunities that come from such world popular brand names yet. In particular, tea should be promoted as a value-added product that can be easily marketed internationally. Although some companies have already started, there are ample opportunities still available for new firms and they can make use of this opportunities to get into GVCs. (Source: KII – 01 – A Government Officer in Badulla District, 12/10/2019)

In addition to tea, other agricultural products such as organic fruits and vegetables, and value-added products such as banana chips and tomato pulp and sauce can also be linked with GVCs. In particular, during the harvesting season bananas and tomatoes can be stored at low cost and also fruit pulps and sauce can be prepared with the available technology in the country. These semi-value-added products can then be linked with GVCs efficiently and ensure better earning opportunities for such entrepreneurs.

We have more than 150 farmers and they produce high-quality cucumbers and bell peppers. They also use more advanced technology for their cultivation and also to build their greenhouses. Currently, more than 50% of the output of our organization is purchased by SriLankan Catering of SriLankan Airlines. We have the potential to double our capacity, if demand can be ensured. (Source: FGD – 02 – An Organization of Greenhouse Farmers in Badulla District, 14/10/2019)

It is apparent from the above statement that SMEs in the agricultural sector also have higher potential to access GVCs. Moreover, the KIIs and survey also emphasized the potential to link handcraft-related SMEs to GVCs.

Intention of Potential Business Sectors to Link with GVCs

The study explores the intention of recognized business sectors to link with GVCs. Figure 7 illustrates the level of intention of each business sector to link with GVCs. According to Figure 6, 69% of information technology-related SMEs and 67% of apparel-related SMEs reported that they have a "higher intention" related to linking with GVCs. In particular, SMEs in the information technology sector have a greater intention to expand their services internationally and link with GVCs in order to achieve the benefits of a globalized world. Similarly, the garment and apparel sector in which Sri Lanka has comparative advantages compared to other regional counterparts has also been searching for global opportunities. In fact, their greater intention to link with GVCs is justifiable considering both the quality of Sri Lankan apparel and the higher demand from international markets.

In our district we have both human and physical resources required for garment and apparel industries. We have a good and efficient supply chain in a local market and some medium-level garment factories export their production through intermediaries. Since we have the capacity, technology, and also skilled labor, we have also been looking for some opportunities to reach the global market. (FGD – 03 – An Owner of a Garment Factory in Monaragala District, 22/10/2019)

In addition, entrepreneurs in business sectors such as gems and minerals, and tea and other agricultural products have also shown a greater desire to engage with GVCs. More specifically, 65%, 62%, and 60% of SME holders, respectively, in the gems and minerals, and tea and other agricultural product sectors have reported that they have higher intentions to link with GVCs.

Figure 7: Level of Intention of Business Sectors to Link with GVC
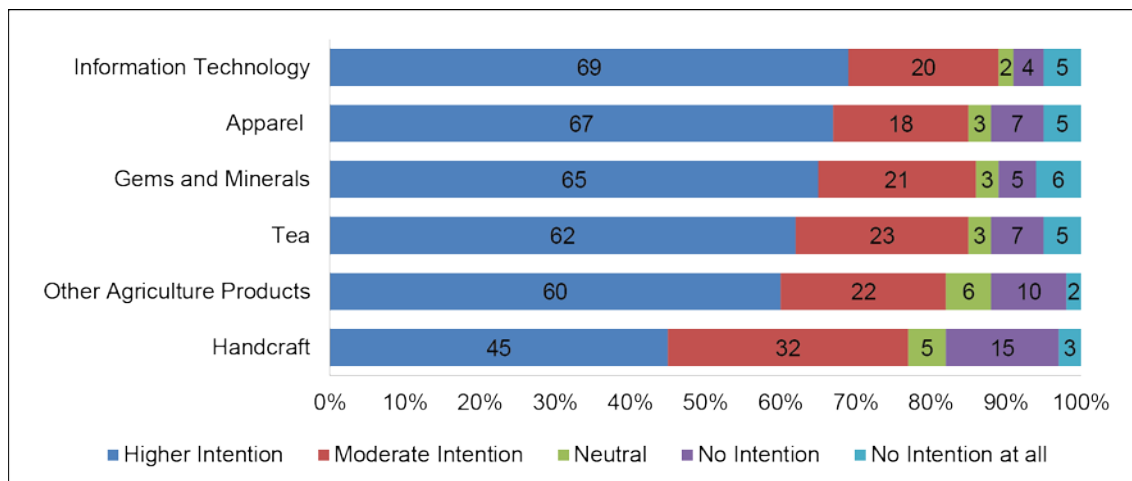
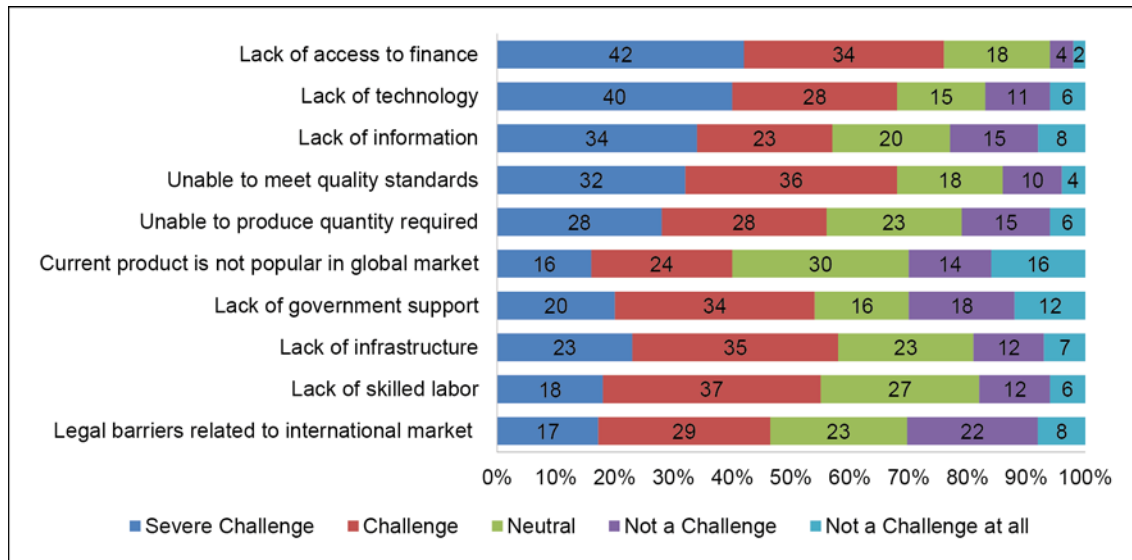Source: Created by authors based on KIIs and survey.

4.4 Challenges and Key Success Factors Related to Coping with GVCs

Challenges Related to Linking with GVCs

Although SMEs can earn ample benefits through joining GVCs, there are a number of barriers that hinder SMEs' participation in GVCs. The current study recognized 10 main challenges that SMEs face when they attempt to link with GVCs, and Figure 7 illustrates how SME holders have ranked these challenges based on their severity. As Figure 8 shows, a lack of access to finance, a lack of technology, and a lack of information can be recognized as the three key challenges. More specifically, 42% of the respondents who recognized a lack of access to finance as a challenge have marked it as a "severe challenge" while 34% have recognized it as a "challenge." Moreover, 40% and 34% of SME holders have recognized a lack of technology and a lack of information as "severe challenges" when expanding their business globally. In fact, access to finance has been a critical issue in relation to expansion of SMEs even in the local market. Most of the government and private commercial banks are reluctant to provide financial facilities to SMEs, indicating that financing SMEs is a risk to banks. Furthermore, most of the microfinance institutions functioning in Sri Lanka have imposed higher but hidden interest rates on their loans and consequently SMEs may end up in a debt trap.

> *I started this business using the inheritance from my parents. Now the business is running smoothly but I need financial support to expand this business further. I discussed this with a few banks and their procedures and standards are too high for us to afford. Although microfinance institutions are willing to finance us, I know their interest rates are too high and a few of my fellow businessmen have had very bad experiences with their loan schemes.* (Source: SME holder, dairy sector, in Badulla District, 15/10/2019)

**Figure 8: Key Challenges that SMEs Face when Expanding
Their Business Globally**

Challenge	Severe Challenge	Challenge	Neutral	Not a Challenge	Not a Challenge at all
Lack of access to finance	42	34	18	4	2
Lack of technology	40	28	15	11	6
Lack of information	34	23	20	15	8
Unable to meet quality standards	32	36	18	10	4
Unable to produce quantity required	28	28	23	15	6
Current product is not popular in global market	16	24	30	14	16
Lack of government support	20	34	16	18	12
Lack of infrastructure	23	35	23	12	7
Lack of skilled labor	18	37	27	12	6
Legal barriers related to international market	17	29	23	22	8

Source: Created by authors based on KIIs and survey.

In addition, both outdated technology and a lack of or asymmetric distribution of information essentially restrict SMEs' participation in GVC.

> *It is very difficult for us to expand our production without having the required technology. The global market needs high-quality products and also at a competitive price. However, how can we increase quality and reduce production costs when outdated technology is used? We don't even have cool room facilities to store fruits and vegetables. Hence, there should be a proper and long-term mechanism to enhance technology related to food processing.* (Source: SME holder, food processing, in Nuwara Eliya District, 23/10/2019)

In addition to the three key challenges, being unable to meet the quality standards of the international market, being unable to meet the production capacity demanded by the global market, unpopularity of the product in the market, a lack of government support, a lack of infrastructure, a lack of skilled labor, and legal barriers are also recognized as barriers to SMEs going global. Among these challenges, being unable to meet the quality standard and the quantity demanded by the international market are also mainly due to a lack of technology. Hence, it is apparent that these challenges are linked with each other and therefore the final impact might be much more adverse than expected. Furthermore, it seems that government support has also not been sufficient to overcome the challenges attached with SMEs. SMEs need to expand their business in the global arena. In fact, the government of Sri Lanka has been implementing different strategies highlighted in Section 1.1 in order to promote SMEs at national level. However, there is no proper mechanism or policy implementation in relation to linking SMEs with GVCs. Moreover, there is a lack of coordination between government policies, policy makers, and implementers. For instance, the recent policy formulation called "Enterprise Sri Lanka" was launched to provide low-interest rate loans for SMEs through government commercial banks. However, the commercial banks still avoid providing loans to SMEs, saying that "Enterprise Sri Lanka" has not been implemented yet.

Key Success Factors Related to Joining GVCs

In addition to the barriers related to joining GVCs, it is crucial to recognize key success factors that stimulate the process of linking SMEs with GVCs. The survey conducted in the current study recognized 12 success factors that every SME should focus on in order to ensure they link up with a GVC. Figure 9 indicates all recognized success factors along with their level of importance.

As Figure 9 visualizes, ensuring a higher level of quality, the availability of skilled labor, and access to better finance have become the most crucial success factors that can push SMEs into linking with GVCs. In particular, 64% of SME holders stressed that the quality of products was "very important" while 62% equally recognized that having skilled labor and better access to finance were also "very important." In fact, the global market is highly competitive and therefore the quality of products and services plays a major role when competing with homogeneous products from different countries. Moreover, most of the successful SMEs in Sri Lanka have better access to finance and also have productive and skilled workers. Better access to finance fulfills all types of financial requirements of firms while skilled labor sustains an efficient production process. In addition, access to better technologies and the ability to produce at low cost are also recognized as "very important" by 58% and 53% of respondents, respectively. In fact, technological improvements are always linked with the success of businesses in different ways. On the one hand, advanced and appropriate technology plays a major role in ensuring both quality and quantity of outputs, and on the other hand, technological development makes the distribution process more efficient. Similarly, the ability to produce at low cost is also very important in order to compete with other suppliers in the global market.

Figure 9: Key Success Factors that Promote SMEs' Link with GVCs
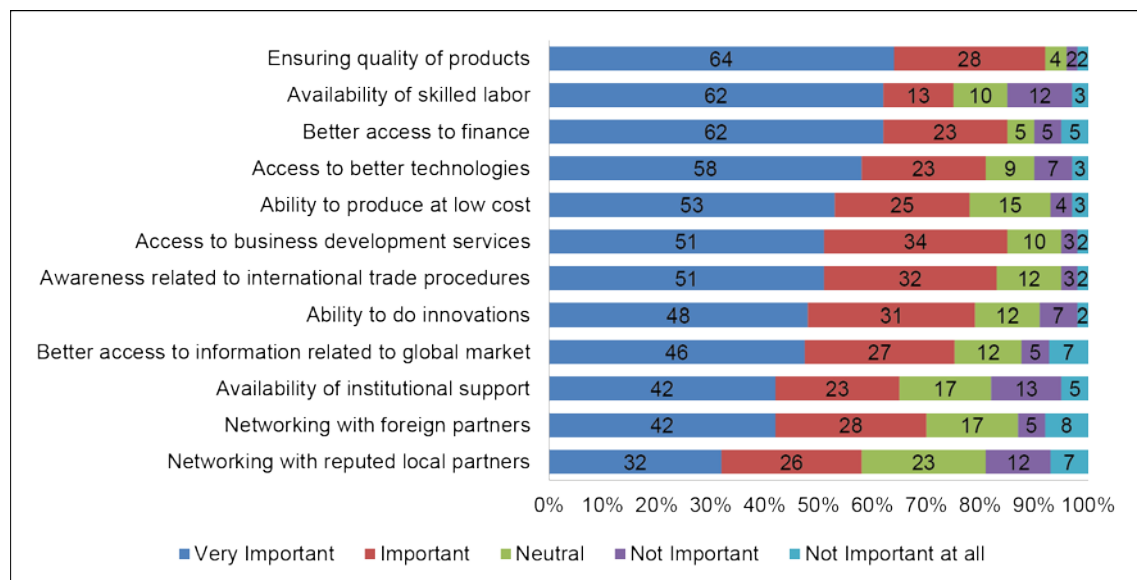
Source: Created by authors based on KIIs and Survey.

Moreover, business development services (BDSs) also play a vital role when SMEs look for global opportunities. BDSs enhance SMEs' awareness related to global opportunities while providing necessary guidance and instructions on the process of GVCs. Similarly, BDSs generate networking opportunities for SMEs at both local and global levels.

Therefore, according to the findings of the survey, 51% and 34% of SME holders have reported that access to BDSs is "very important" and "important," respectively.

> *Actually, the BDS given by ……… organization was highly important for me to make my business more successful. They enriched us in many aspects such as how to register a business, how to access financial opportunities, what the available advanced technologies are, currently available global opportunities, the legal background of the international market, and import and export procedures. Therefore, BDSs are a main success factor in relation to SMEs that are willing to go global.* (Source: SME holder, apparel sector, in Monaragala District, 22/10/2019)

In addition to the above highlighted success factors, awareness related to international trade procedures, the ability to produce innovations, better access to information related to global markets, institutional support, and networking with both local and international partners are also recognized as "very important" factors by more than 30% of respondents on average.

5. CONCLUSIONS AND RECOMMENDATIONS

The current study focuses on the impact of GVCs on the performance of SMEs in Uva and the central provinces of Sri Lanka. Moreover, the study examines potential local business sectors that can be linked with GVCs and also key challenges and main success factors in relation to linking SMEs with GVCs. A mixed research method that combined both quantitative and qualitative data and analytical tools was employed to accomplish the research objectives. More specifically, 329 SMEs were surveyed to collect quantitative data while four and eight FGDs and KIIs were respectively conducted to gather qualitative information. A regression equation based on three different models was econometrically estimated to quantify the impact of linking with GVCs on the performance of SMEs while descriptive analysis was employed in relation to other objectives of the study. According to the survey findings, over 60% of the 200 entrepreneurs were male. It is felt that the patriarchal values still prevail in these provinces. Nevertheless, there are signs of change with several initiatives of multiple organizations targeting the empowerment of women. The average age of SME holders is between 40 and 50. SME holders in the Nuwara Eliya district have the lowest educational qualifications followed by the Monaragala district, while SME holders in the Badulla and Matale districts have the highest educational attainments. According to the survey findings, over 80% of the SMEs in each district are at a micro level. The Badulla district accounts for the largest number of micro-level SMEs followed by the Monaragala district. There are a larger number of industrial sector SMEs than agriculture and service sector ones. According to the survey findings, about 80% of micro-level SMEs in the Matale district are industry related while 71.8% and 56.4% are in the Monaragala and Badulla districts, respectively. The study recognized 10 main types of business, including agriculture, farming and dairy industry, food and beverages, arts and craft, and apparel and bag production.

The econometric analysis found that SMEs that are linked with GVCs have a higher level of profit than SMEs that are not. Therefore, there is a positive relationship between linking with GVCs and SMEs' performance and this relationship is consistent even when the models are controlled by other firm characteristics. Apart from the direct impact of GVCs on SMEs' performance, the study also observed that linking with GVCs indirectly increases the performance of SMEs through enhancing the sales revenue and research and development activities of SMEs. In addition to the key findings, the estimated models

also confirm that factors such as capital assets, number of workers, sales revenue of firms, human capital, and types of SMEs also affect the performance of SMEs. The descriptive analysis recognized five main business sectors, namely information technology, apparel, gems and minerals, tea and other agricultural products, and handcraft, as the sectors with the most potential to link with GVCs. Moreover, among these five business sectors, SMEs in business sectors such as information technology, apparel, and gems and minerals have greater intention to link with GVCs. Furthermore, the study recognized a total of 10 key challenges that SMEs face when they attempt to link with GVCs. Challenges such as a lack of access to finance, a lack of technology, a lack of information, being unable to meet quality standards, and being unable to produce the quantity required were recognized as the most critical challenges. In addition to key challenges, the survey also identified 12 key success factors that stimulate the process of linking SMEs with GVCs. As the survey highlighted, factors such as ensuring the quality of products, the availability of skilled labor, better access to finance, access to better technologies, the ability to produce at low cost, and access to BDSs increase the potential to link SMEs with GVCs.

The findings of the study strongly indicate that government, nongovernment organizations, and policy makers should encourage SMEs to participate in GVCs by allowing them to grow as internationally competitive entrepreneurs. Firstly, it is essential to recognize new SMEs that are interested in linking with GVCs and also SMEs that are already involved with GVCs. Then, it is recommended to ensure a solid public-private partnership in order to inculcate an entrepreneurial culture in the society and to provide advanced technological know-how. Advanced technological know-how can be attracted through foreign direct investments (FDIs) and therefore both Uva and the central provinces should facilitate to access to such FDIs efficiently. Moreover, local and international training for SME holders can also be an option to enhance technological know-how. Moreover, financial facilities and also access to financial facilities should be improved by getting the help of both state-owned and private banks and financial institutions. In particular, recognized SME sectors such as information technology, apparel, gems and minerals, tea and other agricultural products, and handcraft should be prioritized when providing financial facilities. Additionally, SMEs should be enriched with symmetric and efficient information and awareness regarding GVCs and production networks, required infrastructures, appropriate BDSs, and training programs to develop human capital capabilities to enhance the SMEs' potential to link with GVCs.

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ANNEX 1

Focus Group Discussion – Badulla

List of Participants

	Name	Institute	Designation
1	LR Lankathilake	Rawana Agro Ltd	Managing Director
2	RM Kulatunga	Industrial Development Board	Deputy Director
3	N Hennayaka	Uva Community Development Center	Program Coordinator
4	Gamini Bandara	Isuru *Prajamandalaya*	Member
5	RM Dayarathne	Uva Provincial Council	Assistant Director
6	S Attanayaka	Isuru *Prajamandalaya*	Chairman
7	Nadeshan Suresh	Uva Shakthi Foundation	Director

Focus Group Discussion – Monaragala

List of Participants

	Name	Institute	Designation
1	VGR Wasantha Kumara	Industrial Development Board	Manager
2	KM Jayalath Bandara	Chrysalis	Project Coordinator
3	CMN Dissanayake	Local Governance Department, Monaragala	Deputy Local Governance Commissioner
4	Chamika Madushan	Welfare Development Center – Thelulla	Officer-In-Charge
5	KM Karunarathna	*Praja Mandala*	Bursar
6	DM Mallika Siriwardana	*Praja Mandala – Badalkumbura*	Vice-Secretary
7	HN Lalani Nishanthi	Star Baby Kids	Entrepreneur
8	AM Ramya Kumari	AMRK Motors	Entrepreneur

Focus Group Discussion – Matale

List of Participants

	Name	Institute	Designation
1	M Nagalingam	Praja Mandala	Entrepreneur
2	DG Upeksha Niranchala	Member of Praja Mandala	Entrepreneur
3	HM Malkanthie	District Secretariat Office	Enterprise Development Officer
4	Chamarika Madurani	District Secretariat Office	District Coordinator – National Enterprise Development Authority
5	KS Sangeetha	District Secretariat Office	Development Officer
6	PA Anjala	Divisional Secretariat Office	Assistant Divisional Secretary
7	Dasanayake	Pradesiya Sabha, Ambagamuwa korale	Development Officer
8	EA Senavirathna	Praja mandala	President

Focus Group Discussion – Nuwara Eliya

List of Participants

	Name	Institute	Designation
1	Nuwan Suraweera	Nuwan Agro foods	Entrepreneur
2	PGM Jayalal	Industrial Development Board	Manager
3	Devinda Abeyrathna	Araliya Green Hills Hotel	Asst. Food and Beverage Manager
4	Ravi Samaraweera	Matale	Ecofeel, Entrepreneur
5	Sashika Kamaladasa	Strategic Inspiration	Consultant
6	BM Raheem	Berendina Development Services	Senior Manager – Plantation Program
7	MRK Herath	Pradesiya Sabha Nuwara Eliya	Development Officer

ANNEX 2

Key Informant Interviews

List of Participants

	Name	Location	Institute	Designation
1	RD Kumarawansa	Badulla	Chamber of Commerce	Secretary
2	DMJU Dharmarathna	Badulla	Small Business Development Unit – Badulla	Training Officer
3	CMN Dissanayaka	Monaragala	Local Governance Department, Monaragala	Deputy Local Governance Commissioner
4	VGRW Kuamara	Monaragala	Industrial Development Board	Manager
5	Sajeewa	Matale	District Secretariat Office	Director Planning
6	Chamarika Madurani	Matale	District Secretariat Office	District Coordinator – National Enterprise Development Authority
7	PD Chandana Lal Karunarathne	Nuwara Eliya	Municipal Council	Mayor – Nuwara Eliya
8	ERLB Atampawela	Nuwara Eliya	Divisional Secretariat Office	Divisional Secretary